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Experiences and expectations for school food; research conducted as part of the 'Eat Well Do Well' scheme in Kingston-upon-Hull

In 2004 Hull City Council introduced free healthy school meals in a bid to improve future productivity for the city (Hull CC, 2005). The meals were developed to meet the nutritional guidelines for primary school meals (Education Regulations, 2007). The 'Eat Well Do Well' (EWDW) scheme was evaluated by the Food Health and Education Research Team at the University of Hull. As part of this research an assessment was made of the food consumed by children, both from the healthy school meals provided and the packed lunches brought from home. It was expected that the provision of school meals would help to improve children's nutritional intake and reduce health inequality across the city. As part of the EWDW initiative children were provided with free breakfast clubs, fruit at morning break, healthy lunches and snacks for those who stayed to after school clubs.

Food consumption

The evaluation (Colquhoun et al, 2008) highlighted that children consumed only a small amount of the food provided and this led to low macro and micronutrient intakes. A previous investigation into the EWDW initiative (Gatenby, 2007) identified that children consumed more food when less-healthy alternatives were available. The increased food consumption led to higher intakes of energy, saturated fat and sugar, but also higher intake of essential micronutrients. The analysis led to a belief that when school meals were compared with packed lunches a similar result would be presented. However, it was expected that schools in Kingston-upon-Hull, which had achieved healthy school status would have an increased awareness of healthy eating and that this would result in packed lunches being closer to meeting the recommended food and nutritional guidelines, as detailed by the Education Regulations (2007).

Packed lunch

Although there had been a substantial investment in the free healthy school meal provision a considerable number of children (average 40%) chose to bring a packed lunch from home rather than take-up a school meal. Despite the schools having been awarded healthy school status, the packed lunches were generally higher in fat, sugar and sodium than recommended and low in fresh fruit and vegetables. In the evaluation process, one packed lunch was identified containing 11 chocolate bars and nothing else. An investigation found this was a 'normal' packed lunch for this child and this high fat, high sugar diet was consumed on a daily basis. This finding was unexpected, however, informal discussions with schools in other areas reported similar findings among children's packed lunches. The School Food Trust (SFT, 2010) encourages schools to develop packed lunch policies,

this research highlights the importance of these policies, to be effective, schools must involve all those concerned in any changes. The SFT emphasises the importance of the role of a school nutrition action group (SNAG). SNAGs are usually made up of pupil representatives, teachers, caterers, parents and governors and can help to implement positive changes (SFT, 2010).

Free school meals

The National Diet and Nutrition Survey for 4-19 year old in the UK (Gregory, 2000) found children who were eligible for free school meals obtained more energy and nutrients from the school meal than children who paid for the meal. Therefore, it was anticipated in the present study that participants from a school in a less affluent community would consume more energy from lunch than those from a more affluent community. However, the children in Kingston-upon-Hull who attended a school in a deprived area of the city, generally consumed less energy and nutrients from the school meal than those from the more affluent community (Colquhoun et al, 2008). Research (Kinra et al, 2000; Walker et al 1995) suggests that these participants may struggle to compensate for the deficiencies in lunch time micronutrient intake with food consumed outside of school, and therefore overall daily intake will be lower than the recommended amounts. Research by Kinra and colleagues (2000) and Walker and colleagues (1995) suggests that families with limited finance are under pressure to buy foods that are high in energy (high fat, high sugar) and cost less per unit energy when compared to less fattening but nutritionally richer foods, such as fruit and vegetables. Children from the less affluent homes have these less-healthy foods available at home and as a consequence chose not to consume the school meal provided. It is possible that the foods provided as part of the healthy school meals scheme were less familiar to these children and this led to the low consumption. When healthy school meals were first introduced in Kingston-upon-Hull schools reported problems with children's knife and fork skills. Children were wasting foods such as roast dinners as these foods were difficult and messy to eat. Lunchtime supervisors reported children eating foods, such as peas and mashed potato with their fingers. Some schools went on to develop lessons as part of Key Stage 1 classes to teach children these skills.

Breakfast clubs

Breakfast clubs were provided as part of the EWDW initiative. However, despite the free provision there were still children who skipped breakfast or consumed biscuits and crisps. This was more common in the less affluent school leading to poor nutritional intakes in these groups of children. At the other end of the spectrum, in the more affluent school, some children had consumed breakfast at home before attending the school breakfast club and consuming further foods as part of the provision. There is much research demonstrating the importance of breakfast for learning and in terms of meeting nutritional needs (Gregory et al, 2000; Kleinman et al, 2002; Pollitt et al, 1998). However, the finding from the EWDW programme reported here suggests that more needs to be done to target those children most at risk from nutritional inadequacies.

Daily food intake

The research evaluated total daily food intakes in a small number (n=20) of participants in order to assess if lunch choice affected the selection of foods consumed throughout the whole day. The research hoped to identify how important lunch consumption was, if the healthy school meal influenced food choice outside of school, and if children consuming the less healthy packed lunch would perhaps consume a

more balanced diet outside of lunch. However, this was not the case for the majority of children, from either school. The food diaries revealed that there appeared to be a 'compensation' effect with children consuming a healthy school meal going on to consume foods high in fat, sugar and sodium for the remainder of the day. Those children consuming a packed lunch went on to consume more fruit and yoghurts (Colquhoun, 2008).

Fruit and vegetables

As part of the EWDW initiative fruit was provided free at morning break, despite this the food diaries revealed some children with very low fruit and vegetable intakes. One child consumed no fruit or vegetables at school or at home and another child who only consumed one orange in the whole school week. It was expected that provision of free fruit at break and vegetables at lunch would help children to meet the recommended 5-a-day (Hull CC, 2005). In reality none of the 20 children, either from the school meal or packed lunch groups met the recommended intakes.

Health inequalities

The provision of free healthy school meals aimed to reduce health inequalities (Hull CC, 2005). However, children ate very little of the lunch provided and the evening meal provision highlighted that children from the less affluent school tended to rely heavily on convenience foods with little fresh vegetable provision. These differences led to these children failing to meet their daily nutritional needs. This difference was expected to be addressed through the provision of free healthy school meals.

The consumption of the healthy school meal and the quality of the food provided improved over the period of the study (Colquhoun, 2008; Gatenby 2007). It would seem reasonable to assume that the acceptance of healthy food would continue to increase and children's nutritional intake therefore improve as a result.

Good practice

During the EWDW initiative some schools developed excellent examples of good practice to encourage children and their parents to accept the whole school approach to healthy eating, some examples are detailed below.

~ Extended lunch break to allow children time to consume their meal

~ Staggered lunch break which allows different year groups to break for lunch at different times, therefore eases pressure on dining room

~ School nutrition action group (SNAG), involving children, parents and caterers in all changes

~ Supplying menus for children to take home, therefore helping children make their lunch choice and providing parents with information

~ Taste testers of the school food at parents' evenings and open evenings

~ Inviting parents/grandparents to join their children for lunch

~ Updating the school meal service with snack bar options which conform to healthy eating requirements may be an option

~ Providing self-service salad bars

~ Ensuring fruit and vegetables are colourful and in abundance

~ Investigating and expand children's familiarity with a wide range of healthy foods

Further work

Overall, the research in the EWDW project highlighted that simply providing food which meets nutritional guidelines does not mean that social inequalities will be

addressed or that this will enable children to meet their nutritional needs. More work is required to ensure that the school meals are consumed and to ensure children and their families understand the importance of a healthy balanced diet. There is always the issue that school food only provides a percentage of children's food intake and what children eat outside of school has a large impact on their acceptance and attitudes towards school food. That said, schools should encourage a whole school approach to healthy eating and provide foods which are nutritionally rich as well as attractive, colourful and appealing.

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